REMARKS

As a preliminary matter, Applicants appreciate the allowance of claims 13-16 and the allowability of claim 4.

The title of the invention has been amended to be more descriptive. Accordingly, withdrawal of the objection is respectfully requested.

Formal drawings are provided, including those for the proposed substitute sheets of drawings filed on June 10, 2003 and annotated sheets enclosed herewith. Support for the amendment to FIG. 12 can be found on page 21, lines 6-15.

With respect to the double patenting rejection between claims 4 and 16, Applicants note that the limitation of claim 3 wherein "said non-magnetic film is formed of a material having a melting point which is lower than that of the material forming said magnetic film" distinguishes claim 4, which depends on claim 3 and claim 1, from claim 16. For this reason, Applicants believe that no objection should occur.

Claims 1-3 and 11-12 stand rejected under 35 U.S.C. 103(a) as being obvious over Osami (Japanese Publication No. 09-044843) in view of Meyer et al. (U.S. Patent No. 5,999,360) and Satoh (U.S. Patent No. 5,820,969), and Applicants' prior art admissions. In response, Applicants have amended claim 1 to further define the magnetic film as a continuous magnetic film laminated on the substrate and at least partially filling the groove formed in the substrate, and respectfully traverse. Applicants respectfully traverse because the cited references, taken alone or in combination, do not disclose or suggest a continuous

magnetic film laminated on a substrate and at least partially filling the groove, where a level difference between an upper surface of the magnetic film on the land and an upper surface of the non-magnetic film filling the groove is 5 nm or less.

The Osami reference is directed to a magnetic recording card that has a magnetic layer formed of discontinuous magnetic layers 1b that are different than the magnetic layer disclosed in Applicants' background. In Osami, a non-magnetic card based body 1a forms lands and grooves in a projecting part 4 and a recess part 5. The magnetic layers 1b have magnetization directions that are opposite to one another in the projecting part 4 and the recess part 5. A protective material 12 covers the projecting part 4 and the recess part 5, but Osami does not disclose or suggest a level difference between the upper surface of the magnetic film on the land and the upper surface of the non-magnetic film filling the groove.

Although Applicants disclose in FIG. 1(b) a magnetic layer 4 that is continuous and fills a groove in a substrate, it would not have been obvious to combine the Osami reference with the magnetic layer 4 of FIG. 1(b) disclosed by Applicants, because the continuous layer would not provide magnetization in opposite directions, as required by the Osami reference. That is, the magnetization layer 4 of Fig. 1(b) does not have opposing magnetizations at the groove 8 and the land 9, as required by Osami. For this reason, Applicants do not believe that it would have been obvious to form the present magnetic memory disk medium, which includes a continuous magnetic film laminated on the substrate

and at least partially filling the groove, so that a level difference between the upper surface of the magnetic film on the land and an upper surface of the non-magnetic film filling the groove is 5 nm or less.

The Meyer et al. reference also fails to disclose or suggest a continuous magnetic film laminated on a substrate and at least partially filling the groove so that a level difference between an upper surface of the magnetic film on the land and an upper surface of the non-magnetic film filling the groove is 5 nm or less. The Meyer et al. reference merely discloses in Figs. 15A-C an insulation layer 80 filling pits 54. No continuous magnetic film laminated on a substrate is provided. Moreover, assuming, *arguendo*, that the material under surface 82 is a magnetic layer, it would not have been obvious to combine the Meyer et al. reference with the Osami reference, because the Osami reference requires opposing magnetic layers in the projecting part 4 and recess part 5, as discussed above, whereas the Meyer et al. reference merely discloses a continuous layer beneath the surface 82.

The Satoh reference discloses a magnetic layer 14 formed on a substrate 12. For the reasons recited above with respect to the Meyer et al. and Osami references, Applicants believe that it would not have been obvious to combine the Satoh reference with the Osami reference, since opposing magnetic layers are required. For these reasons, withdrawal of the rejection to claims 1 and 11 and their respective depending claims 2-3 and 12 is respectfully requested.

Claims 1-2 and 11-12 stand rejected under 35 U.S.C. 103(a) as being obvious over Miyamura et al. (U.S. Patent No. 5,372,843) in view of Meyer et al. Applicants respectfully traverse the rejection because the cited references, even if combined, do not disclose or suggest a continuous magnetic film laminated on a substrate and at least partially filling in the groove formed in the substrate so that a level difference between an upper surface of the magnetic film on the land and an upper surface of the non-magnetic film filling the groove is 5 nm or less.

The Miyamura et al. reference discloses a process for producing a magnetic recording medium wherein a diffusion barrier 3 is etched according to a resist pattern {FIG. 1(f)} and a resist is removed {FIG. 1(g)}. Next, a magnetic recording film 5 is formed {FIG. 1(h)}, and then annealing occurs, which causes the magnetic film to change magnetic properties at a track 6 and a separator 7, as shown in FIG. 1(i). The Miyamura et al. reference does not disclose or suggest a continuous magnetic film laminated on the substrate and at least partially filling the groove. Rather, the Miyamura et al. reference discloses that a portion of the magnetic layer is changed (See Col. 5, lns. 11-16). That is, Miyamura et al. discloses that after annealing of the magnetic recording film 5, two different layers 6 and 7 are formed that have different magnetic properties, which is different than the continuous magnetic layer recited in the present claims.

The Examiner cites the Meyer et al. reference for teaching a level difference between an upper surface of the magnetic film and the upper surface of the non-magnetic

film filling the groove that is 5 nm or less. Assuming, *arguendo*, that the Meyer et al. reference teaches such a level difference, the combination of the Meyer et al. and the Miyamura et al. references still fails to disclose or suggest a continuous magnetic film laminated on the substrate that at least partially fills the groove and also has the level difference of 5 nm or less, as now recited in the claims. For at least these reasons, withdrawal of the §103 rejection of claims 1 and 11, as amended, and their respective dependent claims 2 and 12, is respectfully requested.

Claims 1-2 and 11-12 stand rejected under 35 U.S.C. 103(a) as being obvious over Takeshita et al. (JP 2000-195042A and U.S. Patent No. 6,583,957) in view of Ohta (U.S. Patent No. 5,313,357). Applicants respectfully traverse the rejection because the cited references, taken alone or in combination, do not disclose or suggest, among other things, a continuous magnetic film laminated on the substrate and at least partially filling the groove such that a level difference between an upper surface of the magnetic film on the land and an upper surface of the non-magnetic film filling the groove is being 5 nm or less, as now recited in amended claims 1 and 11.

The Takeshita et al. reference discloses in FIGs. 9B-C a substrate 1 having a discontinuous magnetic layer 3 and a non-magnetic layer 4. The non-magnetic layer 4 is 20 nm thick, resulting in a level difference between an upper surface of the magnetic film on a land and an upper surface of the non-magnetic film filling a groove of 20 nm. The Takeshita

et al. reference does not disclose or suggest forming the magnetic layer 3 as a continuous layer.

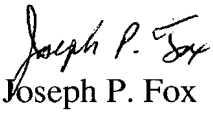
The Ohta et al. reference discloses a magnetic storage device that has a magnetic film formed on a substrate 21 and a lubricant film 23 formed on the magnetic film 22. However, as illustrated in FIG. 6, at the peak of the non-magnetic layer 23, a level difference of 200 Å or 20 nm occurs between the upper surface of the non-magnetic film and the upper surface of the non-magnetic film filling the groove. While the Ohta et al. reference does not disclose a thickness of the lubricating layer 23, it does disclose a thickness of a similar lubricant layer 3 in FIG. 4 as being 2-10 nm in thickness. Accordingly, even if the lubricating layer 23 were 10 nm in thickness, the level difference between the upper surface of the magnetic film on the land and an upper surface of the non-magnetic film filling the groove would be at least 10 nm, which is greater than the range recited in amended claims 1 and 11. For these reasons, withdrawal of the rejection of claims 1 and 11, as amended, and their associated depending claims 2 and 12 is respectfully requested.

New claim 17 is claims 1 and 3-4 combined. Accordingly, Applicants consider claim 17 to be in condition for allowance.

For all of the above reasons, Applicants request reconsideration and allowance of the claimed invention. The Examiner should call Applicants' attorney if an interview would expedite prosecution.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By 
Joseph P. Fox
Registration No. 41,760

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300 South Wacker Drive - Suite 2500
Chicago, Illinois 60606
Telephone: (312) 360-0080
Facsimile: (312) 360-9315
Customer Number 24978
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